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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,336	05/25/2001	Zane Drussel	15.0062 0103	3557

26813 7590 09/24/2002

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EXAMINER

NORRIS, JEREMY C

ART UNIT PAPER NUMBER

2827

DATE MAILED: 09/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/865,336

Applicant(s)

DRUSSEL ET AL.

Examiner

Jeremy C. Norris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 22-78 is/are pending in the application.
- 4a) Of the above claim(s) 63-68 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-62 is/are allowed.
- 6) ☒ Claim(s) 69-74 and 76-78 is/are rejected.
- 7) ☒ Claim(s) 75 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 69-74 and 76-78 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,448,451, granted to Takubo et al. (hereafter Takubo).

Takubo discloses, referring to figure 1, a circuit board substrate assembly comprising: a substrate material (2) having first and second opposed edges, the substrate material comprising: a plurality of circuit forming regions (8-1, 8-2) comprising at least one pair of adjacent circuit forming regions; a first interconnection region and a second interconnection region, wherein the first interconnection region extends along the first edge and is located between the first edge and the plurality of circuit forming regions, wherein the second interconnection region extends along the second edge and is located between the second edge and the plurality of circuit forming regions; and a plurality of openings defined in the substrate material, wherein at least one opening (7-2) is defined in the substrate material between each pair of adjacent circuit forming regions, wherein the at least one opening extends into at least portions of both the first interconnection region and second interconnection region; and one or more circuits formed in one or more of the circuit forming regions of the substrate material resulting in a packaged individual circuit in each of the one or more circuit forming regions (see

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embodiment illustrated in figure 7A), wherein each packaged individual circuit is formed in the substrate material adjacent the at least one opening [claim 69], wherein the substrate material further comprises a first end and a second end, wherein the plurality of circuit forming regions lie along, a length of the substrate material between the first end and the second end, the length being defined along a longitudinal axis [claim 70], wherein both the first edge and second edge of the substrate material are substantially parallel to the longitudinal axis [claim 71], wherein the at least one opening comprises a first and second opposing end portion with the first end portion thereof lying along a first singulation axis of the substrate material parallel to the longitudinal axis and the second end portion of the at least one opening lying along a second singulation axis of the substrate material parallel to the longitudinal axis [claim 72], wherein the at least one opening is a single slot extending generally orthogonal to the longitudinal axis [claim 73], wherein at least one packaged individual circuit has a length orthogonal to the longitudinal axis, wherein the at least one opening has a length that is orthogonal to the longitudinal axis, and further wherein the length of the at least one opening is greater than the length of the at least one packaged individual circuit [claim 74], wherein the packaged individual circuits comprise surface mount component configurations [claim 76], wherein the at least one opening comprises a slot extending into at least portions of the first and second interconnection regions [claim 77], wherein the at least one opening between each pair of adjacent circuit forming regions is configured such that the plurality of circuit forming regions are separable by using a material removal tool

operable to move along one or more parallel singulation axes to remove at least portions of the first and second interconnection regions [claim 78].

***Response to Arguments***

Applicant's arguments filed 26 June 2002 have been fully considered but they are not persuasive. Applicant has not given specific arguments regarding the allowability of newly added claims 69-78. Moreover, the arguments Applicant has submitted regarding claims 22-62 are drawn towards limitations which do not exist in claims 69-78 and are therefore not germane to claims 69-78.

***Allowable Subject Matter***

Claims 22-62 are allowed.

Claim 75 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Examiner is persuaded by Applicant arguments filed 26 June 2002. Regarding claims 22-32, Applicant has submitted that the instantly claimed invention is distinguished over the above mentioned prior art of Takubo because the instantly claimed limitation "a single opening defined in the substrate material between each pair of adjacent circuit forming region" is different from the disclosure of Takubo which presents multiple openings in the aforementioned region. Thus Examiner has interpreted the above mentioned limitation as a negative limitation. That is that the opening is to be one and only one, and a plurality of openings in that region is

disallowed. Hence, based on these arguments and this interpretation, Examiner concludes that the instantly claimed invention contains a limitation, which in conjunction with the other claimed limitations was neither found to be disclosed in, nor suggested by the prior art.

Regarding claims 33-62, Examiner is persuaded that the invention of Takubo indeed does not contain adjacent rows of circuit forming regions, and thus cannot anticipate the limitation "a singulation axis defined between each pair of adjacent rows". Therefore, it is deemed that this limitation, in conjunction with the other claimed limitations was neither found to be disclosed in, nor suggested by the prior art.

Regarding claim 75, claim 75 states the limitation "wherein the packaged individual circuits comprise ball grid array configurations". This limitation, in conjunction with the other claimed limitations was neither found to be disclosed in, nor suggested by the prior art.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 703-306-5737. The examiner can normally be reached on Mon.-Th., 9AM - 6:30 PM and alt. Fri. 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-0725 for regular communications and 703-308-0725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JCSN  
September 21, 2002

  
ALBERT W. PALADINI  
PRIMARY EXAMINER